BIOS

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# Alberta's Water for Life

Alberta is facing significant pressures on its water resources. Population growth, drought, and agricultural and industrial development all put stress on our water supply and our water systems. *Water for Life: Alberta's Strategy for Sustainability* is the Alberta government's comprehensive strategy for addressing water management concerns for the future.

*Water for Life* envisions Alberta's governments, stakeholders and the public cooperating in a network of community, basin and provincial level partnerships - combining knowledge and resources to manage Alberta's water resource in an efficient and effective manner so our drinking water, aquatic ecosystems, and economies are sustained for future generations.

*Water for Life* represents a significant commitment by government to ensuring Albertans have safe, sustainable water supplies for communities, the economy and the environment. The value of the actions outlined in the strategy over 10 years is currently estimated at $916 million - with approximately $491 million in capital investment, primarily in terms of upgrading and rehabilitating drinking water and water management infrastructure, and $425 million in operating funds for a wide range of initiatives.

The sources of the funding will not be limited to investments by the provincial government alone. Matching funding for many of the specific initiatives may come from other sources including other governments (federal and municipal), the private sector, and research funding organizations. This could include up to $100 million from the federal government in the short-term period for investments in water management infrastructure.

> " Population growth, drought, and agricultural and industrial development all put stress on our water supply"

Over half of the operating funds under consideration are targeted for additional monitoring and improving our knowledge of Alberta's water resources and conducting research into emerging issues and improvements in technology. Other proposed operating funds will support local watershed management organizations, water conservation initiatives, improved health surveillance and operations of drinking water facilities, and assessment of aquatic ecosystems.

The potential investment related to

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**BIOS** is written for the enjoyment of the members of the Alberta Society of Professional Biologists and those interested in the field of professional biology. Articles or comments are welcomed and should be communicated to the ASPB Office. Editing and layout by Gavin More, 49 NORTH Creative Learning and Training.

## WELCOME NEW MEMBERS

**Regular:** Ken Armstrong, Bob Holland, Patricia Kendrick, Karla Langlois, Cindy Robinson, Lilian T. Lamprea O.

**Biologist In Training:** Nadia Contant, Kevin Edwards, Kelsey Ryland, Paula Schneider, Sharon Wegner

**Student:**

## Membership Update

ASPB membership as of December 15, 2003: **Total 545**

| | | | |
|---|---|---|---|
| Regular | 443 | Biologist in Training | 57 |
| Honorary | 7 | Temporary Withdrawn | 22 |
| Student | 9 | Public Member | 1 |
| Associated | 6 | | |

## Member Handbook Updates

Your ASPB Member's Handbook needs to be updated. To do this update, simply remove the current information you have under Part 8 (ASPB Bylaws) and Part 9 (Alberta Professional Biologist Regulation) and replace these pages.

The new ASPB Part 8 Bylaws were distributed by email in December for each member to print and insert into your handbook.

The new Professional Biologists Regulation required to update Part 9 of your handbook is available on the internet. The Regulation can be accessed by entering 120/2002 under "Catalogue Search" on the Queen's Printing website at www.gov.ab.ca/qp. A printable copy of the Regulation is available on the website or a printed copy can be ordered on-line for $3.00.

Please update your handbook so you can keep current on the Bylaws and Regulation that govern your association and your industry. Please recyle the discarded handbook pages.

## Nominations for ASPB Board

Nomination papers for the ASPB Board of Directors were distributed to members in December 2003. Professional members are needed to serve in a number of positions. Please consider supporting your society by volunteering to let your name stand for nomination.

Those interested in the Board should follow the instructions for nominations provided by the ASPB Office.

# President's Message

As the calendar turns to another year, it seems appropriate to take stock of what we've accomplished over the past year and where we need to go in the future.

Eighteen months ago the Board of Directors undertook a visioning exercise to set priorities for the Society. Our initial "wish list" was long. After considerable debate it because clear to us that our most immediate priority had to be getting our house in order.

That meant two things:

1. working hard to improve our financial picture; and
2. finding ways to work more effectively at the things we were already doing.

While at face value these two things may seem simple, they each involve their own challenges. I'd like to take a moment to deal with each separately.

Financial Picture

In a nutshell, we achieved our goals! We wanted to get the financial picture stable enough that decision making by future Boards was not adversely effected by uncertainty over the financial picture.

Eighteen months ago, although we had funds in reserve, the level of income and expenditures facing us was uncertain enough that it made decision making difficult. After much effort in bringing in new members, new resources and taking a hard look at our spending, we now have achieved a surplus of approximately $150,000. The Board has created a "sustainability fund" to manage this surplus. The sustainability fund will be maintained to enable future Boards to better support the needs of our members without accepting undue risk.

Working More Effectively

Like many volunteer-run societies, we often struggle with how to deliver services in the most effective manner while balancing the challenges of changing players and priorities. We have focused on improving the effectiveness of how we work in two areas:

1. Procedures and templates have now been documented or are in preparation for several functions to bring consistency to our on-going activities. These areas include registration, symposia, appeal process and personal information use (i.e. ensuring privacy).

2. A detailed review of our registration practices to assist the registration committee in conducting their work. "Registration" is an area of great challenge to the Society as we have at times been accused of being "elitist" or "exclusionist". The fact is, we are. We exclude people who are not biologists. Our legislation requires us to because, lets face it, the primary reason we exist is to ensure the ethical practice of biology in this province.

Many of the ASPB Boards I have sat on in the past have struggled with this issue. It's complex and there are no easy solutions. There are many disciplines out there that overlap with biology.

The Registration Committee has the task of reviewing hundreds of applications every year and dealing fairly with the "grey area" ones. Their job is largely thankless and highly open to criticism. So first let me say "Thank-you!" to that committee.

But to those of you who feel we have room to improve, I agree with you. There is always room to improve. That committee knows it. The Board knows it. We will continue our efforts to tackle the complex issues in this area.

Where do we go from here?

1. We will continue to maintain our many existing programs and work toward developing more tools and templates to bring consistency and efficiency.

2. We have heard over and over again, that our members want to see more services for their money. We are now positioned to throw ourselves at this problem through the development of the "sustainability fund" that will give future Board's the confidence to dedicate resources toward the challenging problems facing us.

3. We will continue to face on-going legislation challenges and the potential need to create an "Umbrella Organization" that would tie together "Natural Resources" professionals (for want of a better term) under a single legislation. We are continuing our work with other Societies in this regard.

4. We will continue to work toward the design and implementation of a professional development program and a mentorship program to support the on-going needs of our members as they progress through their career. Both programs were initiated two years ago.

What has been the role of your president in all this? To nag, to bully, to mentor, to cheer, to keep the wheels on the track and to daily dig myself out from email. Have we accomplished what we set out? Eighty percent isn't bad!

So let me just say thanks to all my fellow volunteers and Board members! Without you we would cease to function!

And to Robin Leech, Jill Lane and all the staff at Managewise, you are the wheels that keep us moving! Thank-you all!

Happy New Year Everyone!

Teresa de Grosbois P. Biol.
President 2003/04

# Bios Bits

## Whale Populations Underestimated

Geneticists from Standford and Harvard believe that the estimate of whales in the North Atlantic Ocean, based on International Whaling Commission records, was underestimated. Genetics testing suggests that whale populations may have been as much as 10 times higher before whaling began than predicted.

This is a major setback for countries wanting to have the 17 year moratorium on commercial whaling lifted. The findings will be published in Science. For information visit www.stanford.edu/dept/news/pr/03/whales86.html

## Health Impact Assessment

The World Health Organization compiled a series of cases studies on the Theory and Practice of Health Impact Assessment based on analysis of policy development in Sweden.
To access the model and case studies: www.who.int/hia/tools/en/ .

## Tundra Impacts Research

The US Department of Energy and the State of Alaska are doing a study to determine the best time for oil companies to transport equipment over the tundra without damage. The project will improve understanding of the tundra's resistance to disturbance.

The new model will challenge the 30 year old standard that limits oil exploration and ice road construction to times when there is at least 12 inches of frozen ground and six inches of snow cover.

For information see www.netl.doe.gov/publications/press/2003/tl_arctictundramodel.html .

## Cumulative Effects Research

Axys has released a report on cumulative impact management in northeastern British Columbia in response to combined land use pressures of forestry, oil and gas, mining and tourism.

www.axys.net/library/Northeast%20BC_CIM_Summary.pdf

## New EA Climate Guideline

The Canadian Council of Ministers of the Environment (CCME) released a report, "*Climate, Nature, People: Indicators of Canada's Changing Climate*"at their November 2003 meeting.

The Ministers also received a new report on consideration of climate change in environmental assessments processes that was developed by a Federal/Provincial/Territorial Committee. Entitled "*Incorporating Climate Change Considerations in Environmental Assessments: General Guidance for Practitioners*", the report is available in PDF format on the CEA Agency webpage at: http://www.ceaa.gc.ca/012/newguidance_e.htm#5.

## Environment Conference List

The Alberta Government Library - Great West Life Site maintains a list of upcoming environmentally related conferences, meetings, symposia and workshops. The focus of this list is on events held in Alberta and Canada, although some events in other locations have been included. The list is updated biweekly.

Use the links provided to verify the dates and details of each event. Visit http://www3.gov.ab.ca/env/info/library/conf.html

## EnviroEmployment Guide

The Canadian Council for Human Resources in the Environment Industry (CCHREI) has recently completed a Guide to Careers in the Environment Sector - Career information for mid-career environmental practitioners. This Guide is available online Website, as a hard copy or CD-ROM. The Guide was created to assist persons in mid career who may be seeking to upgrade their careers or persons employed in other sectors looking to transition to the environment industry.

The Guide is divided into two parts. The first part describes 60 Career Profiles organized under three headings - Environmental Protection, Conservation and Preservation of Natural Resources and Environmental Education, Communications and Research. The career path for junior, intermediate and senior levels accompanies each profile. The second part provides information on career development.

An online version provides access to an interactive career matching tool (visit www.cchrei.ca/ee). The latter allows one to retrieve profiles based on 'Occupational Profiles by Work Preference', 'Occupational Profiles by Interest' or 'Occupational Profiles by Education'. The online version also contains a video library with advice from experienced practitioners from across Canada.

To order copies of the Guidebook or CD-ROM on line go to www.cchrei.ca/ee/order/default.asp

## 2004 ASPB Conference

On March 30 and 31, 2004, the ASPB is hosting the 2004 conference titled "*Prediction to Practice: Environmental Assessment Follow-Up*". The two-day conference will be located in the elegant Fairmont Palliser Hotel in downtown Calgary, Alberta.

For more than 20 years, EA has been a legal requirement of development approval in all of Canada's jurisdictions. Environmental assessment is a well-established scientific process that predicts the potential environmental and socio-economic effects of proposed projects.

However, EA predictions are not consistently evaluated after the completion of development. Most commonly, EA follow-up has occurred for developments regulated by the Canadian Environmental Assessment Act (CEAA); other jurisdictions may soon also require follow-up testing.

EA follow-up programs are critical in verifying the magnitude and nature of predicted environmental impacts, and in determining the effectiveness of mitigation measures proposed and implemented. The objective of the conference is to share successes and challenges, facilitate new ideas and contribute to discussion and debate of the issue.

The conference will include key-note speakers, presentations and a panel discussion. Target sectors include the energy, forestry and agricultural industries, with experiences being drawn from industry, government and consulting representatives.

Discussion topics may include:

- Current Approaches & Protocols for Verification
- Case Studies
- Divergent Views: Panel Discussion
- Environmental Management Systems & Environmental Assessment Verification
- Remote Sensing & Emerging Geo-spatial Information Technologies
- Regulatory Frameworks to Implement Verification Requirements

The 2004 ASPB Conference will be an important event for industry professionals, consultants, government representatives and others involved in the planning, creation, review and follow-up of Environmental Assessments.

Contact the ASPB Office for registration information.

## Water for Life cont'd

the actions outlined in the strategy fall into several categories:

*Drinking Water - $250 Million*

- improved health surveillance and operations of facilities
- upgrading of infrastructure

*Aquatic Ecosystems - $64 Million*

- scientific assessments of lakes, rives and wetlands
- establishment of objectives for each watershed

*Sustainable Economy Initiatives - $279 Million*

- establishment of objectives for each watershed
- upgrading and rehabilitation of existing water management infrastructure

*Knowledge and Research - $218 Million*

- research into emerging issues
- surface and ground water inventories and monitoring
- flood risk mapping
- provincial water data warehouse
- education and knowledge transfer

*Partnership Initiatives - $81 Million*

- provincial water advisory council
- regional watershed planning and advisory councils
- support of local watershed stewardship groups

*Water Conservation Initiatives - $24 Million*

- water use database and reporting system
- review of economic instruments
- water conservation technology transfer

For more information about Alberta's water resources, read Facts and Information on Water in Alberta at www.waterforlife.gov.ab.ca

# Species at Risk - Public Registry

The Federal Species at Risk Act (SARA) Public Registry is an internet gateway providing users easy access to documents and information related to SARA at any time.

The Public Registry is a key tool in supporting public participation in decision making related to SARA. The Government of Canada is committed to working with all interested parties to ensure that species at risk and their critical habitats are protected. The Act supports this commitment, by providing the public with an opportunity to comment on proposed documents. These documents are listed in the "current public consultations" section of the website. To make comments, select a document and use the attached comment form.

Section 123 of SARA, identifies documents that are required to be published in the Public Registry. Also included are all of the documents specified in various sections of the Act. The key documents included in the Registry are:

**List of Wildlife Species at Risk**

SARA establishes the 'official' list of wildlife species at risk and classifies those species as extirpated, endangered, threatened, or a special concern (Schedule 1). Once listed, the measures to protect and recover a listed wildlife species are implemented (see below). Species designated at risk by COSEWIC prior to October 1999 must be reassessed using revised criteria before they can be considered for addition to Schedule 1. The list will change over time. Species initially included reflect those published in the Act on the date of proclamation. Newly assessed wildlife species are included only once they have been added to the List by order in council.

**Status Reports**

A status report contains the best-available information on the basic biology of a wildlife species including information on population sizes and trends, distribution in Canada, and habitat availability. Commissioned by COSEWIC through an open competition process, status reports form the basis for a species assessment and status designation. To find a status report, first select a species group and then a species.

**Strategies and Plans**

**Recovery Strategies:** outline the long term goals and short term objectives for recovering a species at risk. This includes information on what is known about the species, what we need to learn, the threats to its survival, and an identification of its critical habitat. It is the first part of a two-part recovery planning process and is used to identify what needs to be accomplished to help the species recover. Recovery plans, developed under the Accord for Protection of Species at Risk, will be posted on the Registry once they meet the requirements of the Act. Visit Environment Canada's Species at Risk website at www.speciesatrisk.gc.ca/recovery/default_e.cfm for additional information.

**Action Plans:** outline the projects or activities required to meet the goals and objectives outlined in the recovery strategy. This includes information on the species habitat, protection measures, and an evaluation of the socio-economic costs and benefits. It is the second part of the two-part recovery planning process and is used to implement the projects or activities to improve the species status. To find an action plan, select a species group and species.

**Management Plans:** set goals and objectives for maintaining sustainable population levels of one or more species that are particularly sensitive to environmental factors, but which are not in danger of becoming extinct. Whenever possible, these plans are prepared for multiple species on an ecosystem or landscape level. To find a management plan, select a species group and species.

**Reports on Critical Habitat Protection:** Under the Act, the Minister must provide a statement and/or progress report on any unprotected portions of a wildlife species critical habitat. This would be required if he/she was of the opinion that the critical habitat remained unprotected after it being identified in a recovery strategy or action plan. The Minister must continue to report every subsequent 180 day period, until the portion is protected or no longer identified as critical habitat. To find a statement and/or report, select a species group and species.

**Permits and Related Agreements:** Under Section 73 of SARA, the competent minister may enter into an agreement or issue a permit authorizing a person to engage in an activity affecting a listed wildlife species, any part of its critical habitat or its residences. These agreements or permits may be entered into or issued for scientific research, for activities which benefit the species or enhance its chance of survival, and in cases when affecting the species is incidental to the carrying out of activities. No Permits or related Agreements are currently posted.

Visit the registry at www.sararegistry.gc.ca/default_e.cfm.

## Ram Cull Dents Gene Pool

According to a recent CBC Quirks & Quarks interview with Dr. David Coltman, a Canadian research scientist in the Department of Animal and Plant Sciences at the University of Sheffield (January 3, 2004), believes that the long term hunting of prize Bighorn sheep trophies from Ram Mountain, Alberta seems to have had an impact on the evolution of these sheep. Hunters have taken the young animals with the largest horns, before they've had the chance to reproduce. The very animals that would have bred are being removed. The result is "little horn" sheep, and potentially a less hardy and healthy population.

To hear the CBC interview download the sound file at www.cbc.ca/quirks/media/2003-2004/mp3/qq-qq-2004-01-03c.mp3 or www.cbc.ca/quirks/media/2003-2004/ogg/qq-qq-2004-01-03c.ogg

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The following is a shortened version of a recent Nature Science Update by John Whitfield that provides background information (www.nature.com/nsu/031208/031208-10.html).

*A study of a Bighorn sheep population in Alberta by David Coltman of the University of Sheffield, UK shows that the horns of some bighorn sheep are getting smaller because hunters are picking off the most impressive rams before they reach their breeding peak. Coltman and his colleagues studied the sheep of Ram Mountain, Alberta, home to the world's biggest Bighorn sheep. Since 1975, 57 of Ram Mountain's rams have been shot - about 10% of all males in the population each year from 1975 to 1996. In 1996, the Alberta government restricted hunting to males with a large, 'full curl' of horns, which has reduced the cull to zero in recent years.*

*Coltman looked at rams from 1971 to 2002, and found that horn size fell by about a quarter over this period[1]. Despite the recent drop-off in hunting, horn size has not recovered. Large horns are generally correlated with large, healthy rams, says Coltman, so the effect on the population's genetics is probably deeper than the effect on horns alone. He suspects that hunting is also influencing mating behaviour, with fewer rams butting heads to fight for partners.*

*One reason for the change is that hunters prefer rams with large horns, as they make for more impressive trophies. But it could also be an accidental side effect of some hunting regulations. Restricting hunting to males with large horns is meant to limit the killing of animals that are not old enough to breed, but it also encourages the culling of animals that grow large horns early in life. Coltman believes that a better strategy may be to limit the number of hunting permits.*

*1. (D. W. Coltman. 2002. Undesirable evolutionary consequences of trophy hunting. Nature, 426:655 - 657)*

## Canadian IBA On-Line Directory

The Canadian Important Bird Areas (IBA) On-Line Directory provides summary information for each of Canada's 597 Important Bird Areas (www.ibacanada.com) and their management.

The directory can be queried to identify bird populations, habitat types, land use activities, and the conservation status of each Important Bird Areas across Canada.

One of the main goals of the IBA program is to ensure the conservation of sites through the development and implementation of conservation plans in partnership with local stakeholders for priority IBAs. These stakeholders include landowners, naturalists, hunters, government agencies and municipalities, aboriginal groups, scientists, etc.

These conservation plans stimulate local priority conservation actions at IBA sites. These are organized by province or territory. A click on a province provides a list of conservation plans. For Alberta, IBA conservation plans have been developed for Big Lake, Sage Creek, Lac La Biche, Grande Prairie, Lesser Slave Lake, Beaverhill Lake, Frank Lake (North), and Chappice Lake.

The site also provides information on the IBA Community Action Fund. The purpose of the Important Bird Areas Community Action Fund is to provide funding support for high-priority projects that contribute to the conservation of bird species and their habitats within an Important Bird Area. The IBA Community Action Fund provides grants to individuals or groups.

To be eligible for funding, the project area must be an officially recognized Important Bird Area, as identified by the Canadian Nature Federation and Bird Studies Canada. Annual grants up $5000 are available. A 1:1 match is required, which may be cash, in-kind (eg. materials and/or volunteer time), or a combination of both. The application for the 2004/05 cycle is January 16th 2004.

Priority is given to projects that are of high priority for the IBA (as determined by the conservation planning); contribute to the conservation of the birds and habitats for which the site has been identified; lead to concrete results; are community-based (involves and benefits the local community); and involve activities identified during a management or conservation planning process. Community Action Fund Summaries from 2000 to present are available on-line.

# UN State of World Population Reports

The United Nations produces an annual State of World Population Report in downloadable pdf format.

**Making 1 Billion Count: Investing in Adolescents' Health and Rights (2003)**

Some 1.2 billion people - one person in five - are between ages 10 and 19, the largest number of adolescents in history. Half of them are poor; one in four live in extreme poverty, on less than $1 a day. The latest 2003 report examines their condition, in the context of changing social norms and lifestyles, including weakening of family support systems, amid globalization and urbanization. The report provides country-specific examples of projects that combine life skills education, including sexuality education, and peer counselling with access to services and points out the high costs and social consequences of failing to adequately meet adolescents' reproductive health and rights.

**People, Poverty and Possibilities (2002)**

Attacking poverty directly, as a matter of human rights, to accelerate development and to reduce inequality within and among nations, has become an urgent global priority. World leaders have agreed on a variety of new initiatives, including the United Nations' Millennium Development Goals (MDGs). This report is a contribution to the discussion and a guide to action. It characterizes poverty by reviewing its many dimensions and looks at several of the key issues including, poverty and gender, poverty and health and poverty and education. It outlines a framework and provides recommendations to meet the poverty eradication goal of reducing the number of poor in half, by 2015. This publication comes complete with expert analysis, prescriptions for the future and a wealth of statistics, graphs and indicators.

**Footprints and Milestones: Population and Environmental Change (2001)**

Human activity is altering the planet on an unprecedented scale, the report points out. More people are using more resources with more intensity and leaving a bigger "footprint" on the earth than ever before. The report examines the close links between environmental conditions, population trends, and prospects for alleviating poverty in developing countries. It finds that expanding women's opportunities and ensuring their reproductive health and rights are critically important, both to improve the well-being of growing human populations and to protect the natural world.

**Lives Together, Worlds Apart: Men and Women in a Time of Change (2000)**

The report examines a broad range of evidence from around the world showing that systematic discrimination against women and girls causes extensive suffering and lost opportunities for both women and men, and holds back efforts to reduce poverty, improve health, stem the spread of HIV/AIDS and slow rapid population growth.

**6 Billion: A Time for Choices (1999)**

Women are having fewer children than ever before, and population growth has slowed from 2.0 to 1.3 per cent in 30 years. But large families in the recent past mean that there are many more women of childbearing age. Global population is still rising by about 78 million people a year. Half the world is under 25 and there are over a billion young people between 15 and 24, the parents of the next generation.

**The New Generations (1998)**

More young people than ever are entering their childbearing and working years. At the same time, the number and proportion of people over age 65 are increasing at an unprecedented rate. The future will be shaped by how well families and societies meet the needs of these growing "new generations": education and health -- including reproductive health for the young, and social, medical and financial support for the elderly.

**The Right to Choose (1997)**

Reproductive Rights and Reproductive Health gaps and failures in reproductive health care result in millions of deaths and permanent injuries, mostly to women in developing countries. The report details progress and problems in attaining the right to reproductive and sexual health, and related rights to sexual and reproductive self-determination and security. It reviews the international human rights agreements that define and protect these rights, and examines the effects of denying them to millions of women and men.

**Changing Places: Population, Development and the Urban Future (1996)**

Within ten years, more than half the people in the world will be living in cities. Most of the urban population increase will be in developing countries. Investment in social development, health, education and a better life for women, will be the key to whether urbanization will improve the lives of people or increase human misery.

All reports can be found on the UN website at www.unfpa.org/publications/index.cfm?filterPub_Type=5